No. 9800371

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Syngenta Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

ALFALFA

'Geneva'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this second day of April, in the year two thousand two.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Forage Genetics, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
FG 4G75

3. VARIETY NAME
Geneva

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
N5292 S. Gills Coulee Road
West Salem, WI 54669
U.S.A.

5. TELEPHONE *(include area code)*
(608)786-2121

6. FAX *(include area code)*
(608)786-2193

FOR OFFICIAL USE ONLY

PVPO NUMBER
9800371

FILING DATE
8/31/1998

FEE RECEIVED
FILING AND EXAMINATION FEE: $ 2450.00/00
DATE 8/31/1998
CERTIFICATION FEE: $ 320.00
DATE 8/29/01

7. GENUS AND SPECIES NAME
Medicago sativa L.

8. FAMILY NAME *(Botanical)*
Leguminosea

9. CROP KIND NAME *(Common name)*
Alfalfa

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Minnesota

12. DATE OF INCORPORATION
March 1991

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Sharie Fitzpatrick
Forage Genetics
N5292 S. Gills Coulee Road
West Salem, WI 54669 USA

14. TELEPHONE *(include area code)*
(608)786-2121

15. FAX *(include area code)*
(608)786-2193

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. [X] Exhibit A. Origin and Breeding History of the Variety
b. [X] Exhibit B. Statement of Distinctness
c. [X] Exhibit C. Objective Description of the Variety
d. [X] Exhibit D. Additional Description of the Variety
e. [X] Exhibit E. Statement of the Basis of the Applicant's Ownership
f. [ ] Voucher Sample *(2,600 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)*
g. [ ] Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)?*
[ ] YES *(If "yes," answer items 18 and 19 below)* [X] NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
[ ] YES [ ] NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
[X] YES *(If "yes," give names of countries and dates)* [ ] NO
February 1, 1998 USA

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*

NAME *(Please print or type)*
Mark McCaslin, pH.D.

CAPACITY OR TITLE
President

DATE
10/22/98

SIGNATURE OF APPLICANT *(Owner(s))*

NAME *(Please print or type)*

CAPACITY OR TITLE

DATE

SD-470 (04-96) *(Previous editions are to be destroyed)*

(See reverse for instructions and information collection burden statement)

Attachment #1

3-17-01

9800371

PVP Application- Geneva Alfalfa
Item 14. Attachments submitted EXERPT FROM ORIGINAL APPLICATION (2-1-98):

Exhibit A: Origin and Breeding History of the Variety.

Geneva is a synthetic variety with 11 parent clones. Parents were selected for forage yield, persistence, forage quality, rapid recovery after cutting, multifoliolate expression from two and three year old Wisconsin breeding nurseries. Parents trace to breeding populations selected for multifoliolate expression and resistance to one or more of the following pests: bacterial wilt, Fusarium wilt, Phytophthora root rot, Aphanomyces root rot (race 1), Verticillium wilt, Anthracnose (race 1), Leptosphaerulina leaf spot, pea aphid and spotted aphid. Recurrent phenotypic selection was used. Germplasm sources used in developing Geneva were: DK 127 (25%), Lightning (20%), LegenDairy 2.0 (15%), Rushmore (10%), Excaliber II (10%), 5262 (10%), Magnum III (5%) and G2852 (5%).

Breeder seed (Syn1) was produced near Nampa, Idaho in 1995. Seed was harvested in total on all parents and bulked to form breeder seed. The breeder has produced sufficient foundation seed (Syn2 or Syn3) for the projected life of the variety. Production of Syn3 foundation seed requires the consent of the breeder.

Alfalfa varieties are heterogeneous populations. Flower color and fall dormancy reaction were observed on 100 random plants at the Syn1, Syn2 and Syn3 generations. The population mean and variance for these traits was not significantly different over the three generations. No novel variants for any trait were observed during the three generations of seed increase. Forage yield was evaluated over multiple locations for both the Syn1 and Syn2 generations. Forage yield potential (expressed as percent of the check mean) was similar for both generations.

Application No. 9800371, Alfalfa variety "Geneva"

Exhibit B: Novelty Statement Additional Supporting Test Data (Amendment 3-17-01)

This variety can be distinguished from others in the crop by using a number of different varietal traits. The variety most similar to Geneva is Rushmore. Geneva is distinct from Rushmore in the following characters:

1. alfalfa stem nematode resistance—Geneva has approximately 38% resistance, versus Rushmore which has approximately 24% resistance; and,
2. pea aphid resistance—Geneva has approximately 60% resistance, versus Rushmore which has approximately 42% resistance.

Character 1. Alfalfa stem nematode resistance.

Test 1. (Restated from original application)

ALFALFA STEM NEMATODE
Test conducted by Forage Genetics International at Nampa, ID

	Variety	Resistance Class	Year Tested	Syn Gen	Unadjusted % R	Adjusted % R	Number of Plants
	Geneva	R	**1998**	1	34	39	210
1.	Lahontan	R			35	40	
2.	Ranger	S			3	3	
3.	Rushmore	MR			19	22	
		Test Mean:			38		
		L.S.D. (.05%)			12.7		
		C.V. (%)			19.8		

Test conducted in field _____ Lab yes

Test 2. (Additional data)

ALFALFA STEM NEMATODE
Test conducted by Forage Genetics International at Nampa, ID

	Variety	Resistance Class	Year Tested	Syn Gen	Unadjusted % R	Adjusted % R	Number of plants
	Geneva	R	**2000**	2	32	37	
1.	Lahontan	R			35	40	
2.	Ranger	S			0	0	
3.	Rushmore	MR			22	25	
		Test Mean:			25	32	
		L.S.D. (.05%)			10		
		C.V. (%)			24.3		

Test conducted in field _____ Lab yes

Application No. 9800371, Alfalfa variety "Geneva"

Exhibit B: Novelty Statement Additional Supporting Test Data (Amendment 3-17-01, continued)

Character 2. Pea aphid resistance.

Test 1. (Amended)

PEA APHID
Test conducted by Forage Genetics International at Nampa, ID

Variety		Resistance Class	Year Tested	Syn Gen	Unadjusted % R	Adjusted % R	Number of Plants tested
	Geneva	HR	**1998**	1	61	57	210
1.	PA-1	HR			59	55	
2.	Vernal	S			3	3	
3.	Rushmore	R		1	47	44	
		Test Mean:			39		
		L.S.D. (.05%)			9.1		
		C.V. (%)			11.9		

Test conducted in field _____ Lab yes

Test 2. (Amended)

PEA APHID
Test conducted by Forage Genetics International at Nampa, ID

Variety		Resistance Class	Year Tested	Syn Gen	Unadjusted % R	Adjusted % R	Number of Plants
	Geneva	HR	**2000**	2	62	62	210
1.	CUF-101	HR			55	55	
2.	Ranger	S			8	8	
3.	Rushmore	R		2	40	40	
		Test Mean:			41		
		L.S.D. (.05%)			8.5		
		C.V. (%)			14.7		

Test conducted in field _____ Lab yes

U.S. DEPARTMENT OF AGRICULTURE
EXHIBIT C
AGRICULTURAL MARKETING SERVICE
SCIENCE & TECHNOLOGY DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

(Alfalfa)

OBJECTIVE DESCRIPTION OF VARIETY

ALFALFA *(Medicago sativa, sensu* Gunn *et al.)*

NAME OF APPLICANT(S)

Novartis Seeds, Inc.

ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*

7500 Olson Memorial Hwy
Golden Valley, MN 55427

FOR OFFICIAL USE ONLY

PVPO NUMBER 9800371

VARIETY NAME

Geneva

TEMPORARY OR EXPERIMENTAL DESIGNATION

FG 4G75

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. [ ][ ][ ] or [ ][ ]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be base on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

1. FALL DORMANCY: (DETERMINED FROM SPACED PLANTINGS)

TESTING INSTITUTION AND LOCATION	DATE OF LAST CUT	DATE REGROWTH SCORED	REGROWTH SCORE OR AVERAGE HEIGHT						
			APPLICATION VARIETY	CHECK VARIETIES*					
				Ranger	Saranac	Archer	LSD .05	CV	$\bar{x}$
Forage Genetics West Salem WI	9/96	10/96	4.2	2.8	3.9	4.6	0.45	10.7	3.3

(* The varieties in parentheses are acceptable check varieties; application varieties must be bracketed by check varieties)

[6] CLASS

1 = Very Non-Dormant ('CUF 101', 'Mecca', '5929')
2 = Non-Dormant ('Moapa 69', '5715', 'Pierce')
3 = Non-Dormant ('Mesilla', 'Sutter', 'Malone')
4 = Moderately Dormant ('Lahontan', '581', 'Express')
5 = Moderately Dormant ('Excalibur', 'Du Puits', '555')
6 = Moderately Dormant ('Saranac', 'WL 316', 'Legend')
7 = Dormant ('Ranger', 'Arrow', 'WL 317')
8 = Dormant ('Vernal', '526', 'Wrangler')
9 = Very Dormant ('Norseman', '5151', 'Spredor 2')

Specify scoring system used: regrowth score, std. test proc. 1995 revision

[5] FALL GROWTH HABIT (Determined from Fall Dormancy Trials)

1 = Erect ('CUF 101')
3 = Semi-Erect ('Mesilla')
5 = Intermediate ('Saranac AR')
7 = Semi-Decumbent ('Vernal')
9 = Decumbent ('Norseman')

2. RECOVERY AFTER FIRST SPRING CUT (In Southwest, first cut after March 21):

[4]

1=Very fast ('CUF 101') 3= Fast ('Mesilla') 5=Intermediate ('Ranger') 7=Slow ('Vernal')
9=Very slow ('Norseman')

TEST LOCATION: West Salem, WI

3. AREAS OF ADAPTATION IN U.S. :

Describe the area for which this variety is adapted; that is, define geographically, or in terms of climate and soils, the region(s) in which it may reasonably be expected to perform well.
THIS CHARACTERIZATION MUST BE SUPPORTED BY TEST LOCATIONS AND DATA ON PERSISTENCE.

This variety is primarily adapted to growth in the North Central, East Central, Moderately WH Intermountain and Great Plains of the U.S.

4. FLOWERING DATE (When 10% of plants possesses open flowers at time of first spring cut):

[0][3]	Days earlier than	[3]
[ ][ ]	..... Same as	[ ]
[ ][ ]	Days later than	[ ]

Please make all 3 comparisons if possible.

1='CUF 101' 2='Mesilla' 3='Saranac'
4='Vernal' 5='Norseman'

Test location Nampa, ID

5. PLANT COLOR (Determined from healthy regrowth 3 weeks after first spring cut, controlling leafhoppers if necessary):

[ ]

1= Very Dark Green ('524') 2=Dark Green ('Vernal') 3=Light Green ('Ranger')

Color Chart Value (Specify chart used)

Application Variety

Vernal

Test Location

6. CROWN TYPE (Determined from spaced plants):

[1]

Non-creeping types 1=Broad ('Vernal') 2=Intermediate ('Saranac AR') 3=Narrow ('CUF 101')

Creeping types 4=Creeping rooted ('Rangelander') 5=Rhizomatous ('Rhizoma')

7. FLOWER COLOR (Determine frequency of plants for each color class as defined by USDA Agricultural Handbook No. 424 (Barnes 1972), allowing all plants in plot to flower):

[0][9][6]	% Purple and Violet (Subclasses 1.1 to 1.4)	[0][0][1]	% Yellow (Subclasses 4.1 to 4.4)
[0][0][2]	% Variegated (Subclasses 2.1 to 2.9)	[0][0][1]	% White (Class 5)
[0][0][0]	% Cream (Class 3)		

Test Location Nampa, ID

POD SHAPE (Determine frequency of plants with the following pod shapes produced on well cross-pollinated racemes):

097	% Tightly coiled (one or more coils, center more or less closed).
003	% Loosely coiled (one or more coils, center conspicuously open).
000	% Sickle (less than one coil).

Test location Nampa, ID

PEST AND DISEASE RESISTANCE: Provide in the appropriate space, trial data for application variety and appropriate resistant (R) and susceptible (eck varieties, resistance class, year tested, synthetic generation tested, number of plants tested, least significant difference statistics (LSD .05), coefficient of variance V), experimental mean ($\bar{x}$), the institution in charge of test, and location of test, and whether test is a field or laboratory evaluation. Data must be from tests conduct private firms, agricultural experiment stations or USDA. Describe scoring system and any test procedure which differs from those approved by the NAAIC. sistance levels should be characterized using % resistant plants as follows: S=<6%, LR=6-14%, MR=15-30%, R=31-50%, HR=>50%. Checks should be based on ıg term resistance averages as approved by the NAAIC. Data must be adjusted to the long term mean of the resistant check variety. Supply both adjusted and adjusted values. Trial data from other test years or locations should be presented whenever available on a separate document as Exhibit D. Seeds of the check rieties and germplasm lines below can be obtained from the USDA Soybean & Alfalfa Research Laboratory, Bldg.. 002, Rm. 10, BARC-West, Beltsville, MD, 20705. mparison is required with check varieties listed below; data must be adjusted according to the expected value of the resistant check. State who made the adjustment

DISEASE RESISTANCE:

NTHRACNOSE (RACE 1) *(Colletotrichum trifolii)*

Test conducted by Forage Genetics at West Salem, WI

Variety	Resistance Class/ Expected Value	Syn. Gen. Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Arc' or 2. 'Saranac AR' 3. 'Saranac'	HR HR 65% R 45% S	Syn1	64 54 0	77 65 0	220
L.S.D. (.05) C.V. (%) $\bar{x}$			8.0 11.9 46.1		

Field or Laboratory/ Year Tested lab/ 1996

Scoring system used standard test procedures

THRACNOSE (RACE 2) *(Colletotrichum trifolii)*

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Saranac AR' 2. 'Arc' or 3. 'Saranac'	R 45% S S				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

A. DISEASE RESISTANCE: (continued)

APHANOMYCES ROOT ROT (Race 1) *(Aphanomyces euteiches)*

Test conducted by Forage Genetics at West Salem, WI

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'WAPH-1' 2. 'Agate'	HR R 50% S 1%	syn 1	53 44 1	60 50 1	220
L.S.D. (.05) C.V. (%) $\bar{x}$			9.2 21.4 30		

Field or Laboratory/ Year Tested lab/ 1996

Scoring system used standard test

APHANOMYCES ROOT ROT (Race 2) *(Aphanomyces euteiches)*

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'WAPH-1' 2. 'Agate'	R 50% S 1%				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

BACTERIAL WILT *(Clavibacter michiganense)*

Test conducted by Forage Genetics at West Salem, WI

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Vernal' 2. 'Narragansett' 3. or 'Sonora'	HR R 42% S 1% S 1%	syn 1	71.3 48.3 - 2.0	62 42 - 1.7	150
L.S.D. (.05) C.V. (%) $\bar{x}$			9.6 13.9 51.9		

Field or Laboratory/ Year Tested Field test / 1997

Scoring system used standard test

A. DISEASE RESISTANCE: (continued)

COMMON LEAFSPOT *(Pseudopeziza medicaginis)*

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'MSA-CW3ANS3' 2. or 'Ramsey' 3. 'Ranger' 4. 'Moapa 69'	 HR 60% HR 60% MR 30% S 0-10%				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

DOWNY MILDEW *(Peronospora trifoliorum)*

Isolate , if known _____

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'KS208' 2. 'Saranac' isolates 15 & 17 isolate 18 3. 'Kanza'	 HR 80% MR 15-20% R 50-60% S 0-5%				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

FUSARIUM WILT *(Fusarium oxysporum f. medicaginis)*

Test conducted by Forage Genetics at West Salem, WI

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Agate' 2. 'MNGN-1'	HR HR 54% S 4%	syn 1	78.7 51.3 1.3	82.8 54.0 1.4	150
L.S.D. (.05) C.V. (%) $\bar{x}$			8.1 8.6 71.1		

Field or Laboratory/ Year Tested Field / 1997

Scoring system used standard test

A. DISEASE RESISTANCE: (continued)

PHYTOPHTHORA ROOT ROT *(Phytophthora megasperma* f. *medicaginis)*

Test conducted by Forage Genetics at West Salem, WI

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. ~~X~~Agate' 2. 'Saranac'	HR ~~XXXX~~WAPH1 R 43% ~~XXXX~~HR 55% S 3%	syn 1	63 56 0	62 55 0	180
L.S.D. (.05) C.V. (%) $\bar{x}$			15.0 16.4 56.1		

Field or Laboratory/ Year Tested lab/1996

Scoring system used standard test- 1995 update (Agate=33%, WAPH-1=55%)

:RTICILLIUM WILT *(Verticillium albo-atrum)*

Test conducted by Forage Genetics at West Salem, WI

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Vertus' or 2. 'Oneida VR' 3. 'Saranac'	HR R 40% HR 60% S 2%	syn 1	58 -- 63 4	55 -- 60 4	160
L.S.D. (.05) C.V. (%) $\bar{x}$			11.1 13.0 58.5		

Field or Laboratory/ Year Tested lab / 1997

Scoring system used standard test

ER (SPECIFY)

Test conducted by at

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 2. 3.	S				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested

Scoring system used

B. INSECT RESISTANCE:

BLUE ALFALFA APHID *(Acyrthosiphon kondoi)*

Test conducted by Forage Genetics at Nampa, ID

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'CUF 101' 2. 'PA-1' or 3. 'Caliverde'	LR HR 55% S 10% S 3%	syn 1	7 45 -- 4	~~8~~ 9 55 -- 5	210
L.S.D. (.05) C.V. (%) $\bar{x}$			5 20.6 18		

MH 12/12/00

Field or Laboratory/ Year Tested lab / 1998

Scoring system used standard test

EA APHID *(Acyrthosiphon pisum)*

Test conducted by Forage Genetics at Nampa, ID

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'CUF 101' or 2. 'PA-1' or 3. 'Baker' 4. 'Vernal' or 5. 'Moapa 69'	HR HR 55% HR 55% R 45% S 5% S 5%	syn 1	59 -- 59 -- 4 --	55 -- 55 -- 4 --	210
L.S.D. (.05) C.V. (%) $\bar{x}$			9 11.9 38	 35	

Field or Laboratory/ Year Tested lab / 1998

Scoring system used standard test

'OTTED ALFALFA APHID *(Therioaphis maculata)*

Test conducted by Forage Genetics at Nampa, ID

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'CUF 101' or 2. 'Baker' 3. 'Arc' or 4. 'Caliverde'	R HR 60% R 50% S 3% S 3%	syn 1	36 -- 47 1 --	38 -- 50 1 --	210
L.S.D. (.05) C.V. (%) $\bar{x}$			17 26.6 38	 41	

Field or Laboratory/ Year Tested lab/ 1996

Scoring system used standard test

B. INSECT RESISTANCE: (continued)

POTATO LEAFHOPPER YELLOWING *(Empoasca fabae)*

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'MSA-CW3AN3' 2. 'Ranger'	R 70% S 5%				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

OTHER (SPECIFY) _____

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 2. 3.	S				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

NEMATODE RESISTANCE:

NORTHERN ROOT KNOT NEMATODE *(Meloidogyne hapla)*

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Nevada Syn XX' 2. 'Lahontan'	HR 90% S 3%				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

C. NEMATODE RESISTANCE: (continued)

SOUTHERN ROOT KNOT NEMATODE *(Meloidogyne incognita)*

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Moapa 69' 2. 'Lahontan'	R 50% S 3%				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

TEM NEMATODE *(Ditylenchus dipsaci)*

Test conducted by Forage Genetics at Nampa, ID

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 'Vernema' or 2. 'Lahontan' 3. 'Ranger' or 4. 'Moapa 69'	R R 60% R 40% S 5% S 1%	syn 1	29 -- 32 0 --	36 -- 40 0 --	210
L.S.D. (.05) C.V. (%) $\bar{x}$			11 33.9 24	30	

Field or Laboratory/ Year Tested lab / 1997

Scoring system used standard test

THER (SPECIFY) _____

Test conducted by _____ at _____

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 2. 3.					
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested _____

Scoring system used _____

OTHER (SPECIFY) ______________________________

Test conducted by ______________________ at ______________________

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 2. 3.	S				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested ______________________________

Scoring system used ______________________________

OTHER (SPECIFY) ______________________________

Test conducted by ______________________ at ______________________

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 2. 3.	S				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested ______________________________

Scoring system used ______________________________

OTHER (SPECIFY) ______________________________

Test conducted by ______________________ at ______________________

Variety	Resistance Class	Synthetic Generation Tested	Unadjusted % Resistance	Adjusted % Resistance	Number of Plants Tested
This Variety 1. 2. 3.	S				
L.S.D. (.05) C.V. (%) $\bar{x}$					

Field or Laboratory/ Year Tested ______________________________

Scoring system used ______________________________

PVP Application- Geneva Alfalfa
Item 14. Attachments submitted

Exhibit D. Additional Description of the Variety.

Part 1. Winter Survival

Geneva alfalfa has above average winter survival for its fall dormancy classification. Data was collected using the Winter Survival test from the green book (March 1995 revision).

Winter survival of Geneva alfalfa (Average Severity Index) - Test conducted by Forage Genetics

Test Location	Syn Gen	estab. mo/year	reading mo/year	**test variety**	2. Vernal	3. Apica	4. G2852	LSD (.05)	CV (%)
West Salem , WI	1	5/96	5/97	**2.7**	2.3	2.9	3.8	0.59	11.9

Test Location	Syn Gen	estab. mo/year	reading mo/year	**test variety**	2. Vernal	3. Dart	4. G2852	LSD (.05)	CV (%)
Madison, WI	1	5/96	5/97	**2.1**	1.9	2.7	3.9	0.4	9.9

Part 2. Multifoliolate Leaf Expression

Geneva alfalfa has high expression of the multifoliolate leaf trait. Data was collected using the Multifoliolate Leaf Expression test from the green book (March 1995 revision).

Multifoliolate leaf expression of Geneva alfalfa (%MF and M.F.I.) - Test conducted by Forage Genetics at Nampa, ID in the field, 1997.

Variety	Syn Gen	%MF	MF index
Geneva (high)	**1**	**89**	**3.54**
1. Proof (high)		86	3.34
2. MultiKing 1 (moderate)		53	2.14
3. Vernal (trifoliolate)		1	1.04
Test mean		58	2.44
L.S.D. (0.05)		13	0.61
C.V. (%)		15.7	17.8

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)
Forage Genetics, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
FG 4G75

3. VARIETY NAME
Geneva

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
N5292 S. Gills Coulee Rd.
West Salem, WI 54669 U.S.A.

5. TELEPHONE *(include area code)*
(608)786-2121

6. FAX *(include area code)*
(608)786-2193

7. PVPO NUMBER
9800371

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant *(individual or company)* a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country _____

10. Is the applicant the original owner? [XX] YES [ ] NO ***If no, please answer the following:***

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?
[ ] YES [ ] NO *If no, give name of country* _____

b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company?
[ ] YES [ ] NO *If no, give name of country* _____

11. Additional explanation on ownership *(If needed, use reverse for extra space):*

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD).
To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

9800371

Forage Genetics

N5292 S. Gills Coulee Road
West Salem, Wisconsin 54669
Phone 608-786-2121
FAX 608-786-2193

June 30, 1998

Jeff Jorgensen, Alfalfa Product Manager
Novartis Seeds, Inc.
Field Crops - NAFTA
P.O. Box 959
Minneapolis, MN 55440

Dear Jeff:

The alfalfa (*Medicago sativa* L.) variety "Geneva" (experimental designation, FG 4G75) was developed by Dr. Mark McCaslin, an employee of Forage Genetics. As a condition of employment, said employee has agreed that all rights to the variety "Geneva" are transferred to Forage Genetics, with no rights to the variety retained by the employee. Forage Genetics has licensed certain rights for the variety to Novartis Seeds, Inc. These rights include: worldwide marketing rights, the right to commercial seed production, the right to name the variety and to independently develop programs for the marketing and sale of the variety, the right to file for Plant Variety Protection of the variety and, the right to represent the variety in international variety registration. These rights for the variety "Geneva" have been assigned to Novartis Seeds, Inc. on an exclusive basis.

Sincerely,

Mark McCaslin
President
Forage Genetics, Inc.

MM/snf